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| AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT | | 1. CONTRACT ID CODE | | PAGE OF PAGES | |
| | | | | 15 | |
| 2. AMENDMENT/MODIFICATION NO. | | 3. EFFECTIVE DATE | | 4. REQUISITION/PURCHASE REQ.NO. | |
| ANNEX #4 (33568) | | UPON FINAL SIGNATURE | | 5. PROJECT NO. (If applicable) | |
| 6. ISSUED BY | | CODE | | 7. ADMINISTERED BY (If other than Item 6) | |
| | | AAQ610-AFN | | CODE | |
| | | AAQ610-AFN | | | |
| AAQ-610 Facilities & Grants FAA William J. Hughes Technical Center Building 300, Fourth Floor Atlantic City International Airport Atlantic City NJ 08405 | | AAQ-610 Facilities & Grants FAA William J. Hughes Technical Center Fourth Floor, Bldg 300 Atlantic City International Airport Atlantic City NJ 08405 | | | |
| 8. NAME AND ADDRESS OF AGENCY (No., street, county, State and ZIP Code) | | (x) | | 9A. AMENDMENT OF SOLICITATION NO. | |
| NASA ARMSTRONG FLIGHT RESEARCH CENTER PO BOX 273 EDWARDS CA 93523-0273 | | | | | |
| | | | | 9B. DATED (SEE ITEM 11) | |
| | | | | 10A. ANNEX TO UIAA NO. x FAA REF#: 692M15-19-N-00013/NASA REF#: 30149 | |
| | | | | 10B. DATED (SEE ITEM 13) | |
| CODE | | FACILITY CODE | | 06/26/2019 | |
| | | | | | |
| 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS | | | | | |
| <input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended. <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment number. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified. | | | | | |
| 12. ACCOUNTING AND APPROPRIATION DATA (If required.) | | | | \$0.00 | |
| See Schedule | | | | | |
| 13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14. | | | | | |
| (x) | | | | | |
| <input type="checkbox"/> A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A. | | | | | |
| <input type="checkbox"/> B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14. | | | | | |
| <input checked="" type="checkbox"/> C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO THE AUTHORITY OF: ARTICLE 1 OF UIAA 30149 (692M15-19-N-00013) | | | | | |
| <input type="checkbox"/> D. OTHER (Specify type of modification and authority) | | | | | |
| E. IMPORTANT: NASA AFRC <input type="checkbox"/> is not. <input checked="" type="checkbox"/> is required to sign this document and return 1 copies to the issuing office. | | | | | |
| 14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.) | | | | | |
| This order issues Annex 4 under UIAA NO. 30149 (692M15-19-N-00013). | | | | | |
| This IAA shall be for the purpose of improving technology readiness for transition to the civil market by the FAA. This will be an initial effort to further inform possible steps towards certifying automated safety features for general aviation aircraft. The effort will also include initial flight test of EVAA. FAA will share results with Resilient Autonomy partners. | | | | | |
| All other terms and conditions must remain the same. COR / Tech Rep: MCGUIRE, ROBERT J | | | | | |
| Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect. | | | | | |
| 15A. NAME AND TITLE OF SIGNER (Type or print) | | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) | | | |
| | | Anthony Doran | | | |
| 15B. AGENCY | | 15C. DATE SIGNED | | 16B. CONTRACT AUTHORITY | |
| (Signature of person authorized to sign) | | | | (Signature of Contracting Officer) | |
| | | | | 16C. DATE SIGNED | |

INTERAGENCY ANNEX 33568
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AND
FEDERAL AVIATION ADMINISTRATION
UNDER INTERAGENCY UMBRELLA AGREEMENT NO. 30149, DATED 6/26/2019
(ANNEX NUMBER 4).

ARTICLE 1. PURPOSE

This IAA shall be for the purpose of improving technology readiness for transition to the civil market by the FAA. This will be an initial effort to further inform possible steps towards certifying automated safety features for general aviation aircraft. The effort will also include initial flight test of EVAA. FAA will share results with Resilient Autonomy partners.

ARTICLE 2. RESPONSIBILITIES

A. NASA AFRC will use reasonable efforts to:

1. Provide Expendable Variable Autonomy Architecture (EVAA) software, integration information and analysis tools.
2. Provide guidance to aid integration and analysis of EVAA.
3. Provide direct assistance in tuning EVAA for testbed specific flight dynamics.
4. Provide Resilient Autonomy developed test plans for consideration in developing test plans for this effort.
5. Review and provide input on final test results.

B. FAA will use reasonable efforts to:

1. Manage the EVAA software per the FAA-NASA software use agreement
2. Provide sufficient resources to acquire all required test assets
3. Provide sufficient resources to make all required aircraft modifications
4. Ensure the airworthiness and flight safety of all activities
5. Conduct flight testing of EVAA software
6. Provide NASA access to flight data

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities in the Annex defined in the "Responsibilities" Article are as follows:

| | |
|--|----------------|
| Deliver EVAA software release to the FAA | April/May 2021 |
| Completion of Pilot Activated Recovery System (PARS) testing | July 2021 |
| Conduct analysis of PARS data for aircraft trajectory tuning | August 2021 |
| Completion of flight test | September 2021 |
| FAA completion of final analysis of flight test data | November 2021 |
| FAA delivery of final report | January 2022 |

ARTICLE 4. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act (31 U.S.C. § 1341).

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS - IDENTIFIED INTELLECTUAL PROPERTY

A. Under paragraph C of the Intellectual Property Rights - Data Rights - Handling of Data Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data.

1. Third Party Proprietary Data:

The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.

2. Controlled Government Data:

The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.

3. The following software and related Data will be provided to Partner under a separate Software Usage Agreement: DRC-020-024, "Expandable Variable Autonomy Architecture (EVAA) version 2"

6. INVESTIGATIONS OF ACCIDENTS, INCIDENTS, AND OCCURENCES

The FAA will investigate accidents, incidents and occurrences resulting from the flight test activities conducted under this Annex. The investigations will comply with FAA Order 8020.11D, Subject: Aircraft Accident and Incident Notification, Investigation, and Reporting. NASA agrees to provide assistance in the investigations as required. The FAA will share findings from the investigation with NASA.

ARTICLE 7. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or two years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella IAA. The term of this Annex shall not exceed the term of the Umbrella IAA. The Annex shall automatically expire upon the expiration of the Umbrella IAA.

ARTICLE 8. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 9. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA Armstrong Flight Research Center
Kia Miller
Project Manager
Mail Stop: PO Box 273 Mailstop 4830C
P.O. Box 273
Edwards, CA 93523
Phone: 661-276-3712
kia.d.miller@nasa.gov

Federal Aviation Administration
Robert McGuire
Contracting Officer Representative
William J. Hughes Technical Center
Atlantic City International Airport
Atlantic City, NJ 08405
Phone: 609-485-4494
robert.mcguire@faa.gov

Technical Points of Contact

NASA Armstrong Flight Research Center
Mark Skoog
Project Manager
Mail Suite: PO BOX 273 Mailstop 4830C
P.O. Box 273
Edwards, CA 93523
Phone: 661-276-5774
mark.a.skoog@nasa.gov

Federal Aviation Administration
David Sizoo
Flight Test Pilot, Small Airplane
Directorate
Mail Suite: 901 Locust St, Room 301,
Kansas City, MO 64106
Phone: 816-329-4158
david.sizoo@faa.gov

ARTICLE 10. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the FAA. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 11. SIGNATORY AUTHORITY

Approved and authorized on behalf of each Party by:

NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
ARMSTRONG FLIGHT RESEARCH
CENTER

FEDERAL AVIATION
ADMINISTRATION

BY: _____
Laurie Grindle
Director for Programs

BY: _____
Anthony Doran
Contracting Officer, AAQ-610

DATE: _____

DATE: _____